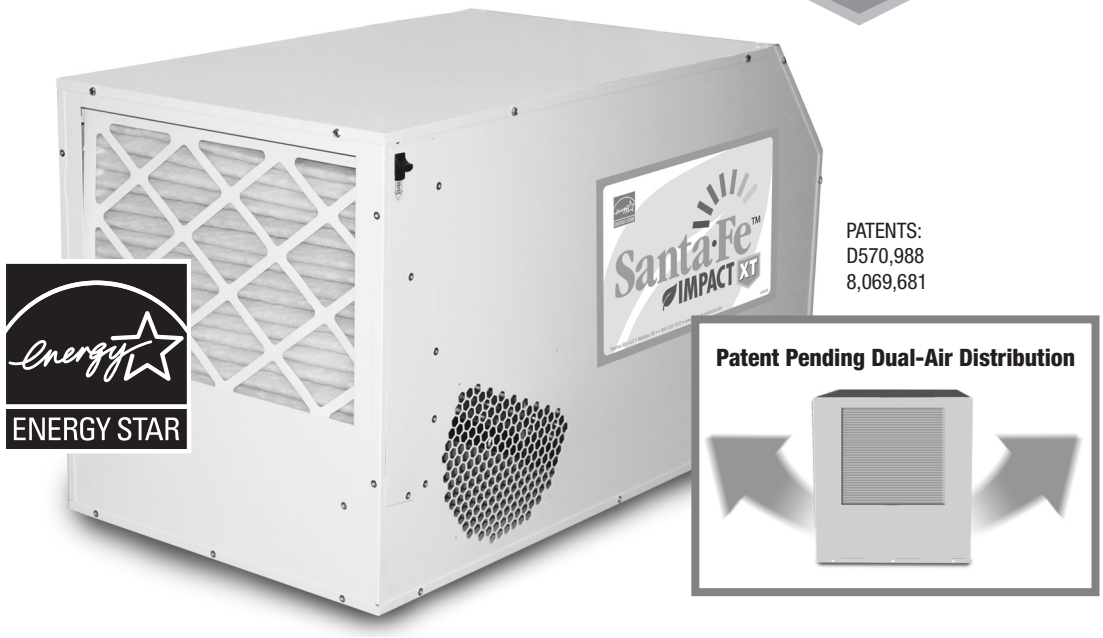
INSTALLER'S & OWNER'S MANUAL

Santa·Fe™ IMPACT XT



PATENTS:
D570,988
8,069,681

Free-standing Moisture Control for Large Areas

- **High capacity**
- **High efficiency**
- **Environmentally friendly**
- **Patent pending dual-air distribution**

P/N 4032230 • Serial No._____ Install Date:_____

Sold by:

Therma-Stor® LLC
Driven by performance. Powered by design.™ | 4201 Lien Rd., Madison, WI 53704 • TOLL-FREE 1-800-533-7533 • www.Santa-Fe-Products.com
• sales@Santa-Fe-Products.com TS-692 12/13

TABLE OF CONTENTS

Table of Contents

1. Intended Application(s) 2
2. Registrations 2
3. Specifications 3
4 . Installation 3
  4.1 Remove Compressor Shipping Support 3
  4.2 Location 3
    4.2A No Ducting 3
    4.2B Ducted Return and Supply 3
    4.2C Remote Area With Ducted Supply 4
    4.2D Remote Area With Ducted Return 4
  4.3 Electrical Requirements 4
  4.4 Condensate (Water) Removal 4
5. Ducting 5
  5.1 Supply Duct Kit 5
  5.2 Return Duct Kit 5
6. Operation 5
  6.1 Humidity Control Adjustment 5
  6.2 Fan Switch 5
7. Maintenance 5
  7.1 Air Filter 5
8. Service 5
  8.1 Technical Description 5
  8.2 Troubleshooting 6
9. Service Parts List 6
10. Accessory/Replacement Parts List 7
11. Optional Remote Humidity Control 7
12. Wiring Diagram 7
Warranty 8

Precautions

- Do not operate the Santa Fe Impact with a cut or frayed power cord.
- Do not unplug the unit by pulling on the cord. Grasp the plug firmly and pull it out of the wall socket or power receptacle.
- Always use a grounded outlet.
- Never operate electrical equipment near or in standing water.
- Do not stick your fingers or other objects through the safety grill.
- When changing filters, do not stick fingers or other objects in the unit.
- No user serviceable components. Contact installer or call 1-800-533-7533, Ext. 8459 for all repair or warranty needs.
- Do not restrict airflow in to or out of the unit. This may cause the unit to overheat.
- The unit should never be serviced or cleaned while it is plugged in.
- Do not sit or stand on the unit, or use as a shelf or table.
- Before leaving the unit unattended, ensure children do not have access to the equipment. Do not allow children to play with or near the unit or in its air flow.
- The unit is designed to be installed indoors only.

Read the installation, operation and maintenance instructions carefully before installing and using this unit. Proper adherence to these instructions is essential to obtain maximum benefit from your Santa Fe Impact dehumidifier.

Read and Save These Instructions

⚠ WARNING! — This symbol means important instructions. Failure to heed them can result in serious injury or death.

⚠ CAUTION! — This symbol means important instructions. Failure to heed them can result in injury or material property damage.

1. Intended Application(s)

The Santa Fe Impact is intended for use in crawlspaces or basements: however, the unit can be placed in almost any residential setting where dehumidification is desired. Use in non-residential applications and pool areas may void warranty.

The Santa Fe Impact is designed to operate in temperatures between 56° and 95°F.

In order to efficiently control humidity levels, the area in which the dehumidifier is to be operated must be free of water intrusion or excessive fresh (outside) air infiltration. Before installing the Santa Fe Impact, water intrusion and air infiltration problems should be addressed.

2. Registrations

The Santa Fe Impact conforms to UL STD 474 and CSA standard C22.2 No. 92.

3. Specifications

Part Number:	4032230	
Blower:	257 CFM @ 0.0" WG	
Power:	530 watts @ 80°F and 60% RH	
Supply Voltage:	115 volt – 1phase – 60 Hz	
Current Draw:	4.9 amps	
Operating Temp.:	56°F Min., 95°F Max.	
Sized for:	2,500 Sq. Ft. - Typical	
Miniumum Performance at 80°F and 60% RH		
Water Removal:	105 Pints/Day	
Efficiency:	8.8 Pints/kWh	
Energy Factor:	4.2 L/kWh	
Air Filter:	MERV-11, Standard Pleat	
Size:	16" x 20" x 2"	
Power Cord:	10', 115 VAC, Ground	
Drain Connection:	3/4" Threaded Female NPT	
Drain Hose:	5/8" ID x 8' Direct Gravity Drain Hose	
Refrigerant Type:	R410A (Refer to manufacturers label for more information)	
Refrigerant Amount:	1lb. 13 oz.	
Dimensions:	**Unit**	**Shipping**
Width:	20.25"	25"
Height:	21.75"	28"
Length:	38"	42"
Weight:	140 lbs.	156 lbs.

4. Installation

⚠ **CAUTION! Remove compressor shipping tie from the unit. Failure to remove shipping tie will cause excess vibration to be transmitted to the frame.**

4.1 Remove Compressor Shipping Support

The Santa Fe Impact uses a compressor to power the refrigeration system. To protect the compressor and refrigeration system during shipping a plastic tie wrap secures it to the units frame. Remove the tie wrap by cutting the tie wrap and pulling from the unit as shown. After removing tie wrap, insert plastic plugs provided into the holes.

4.2 Location

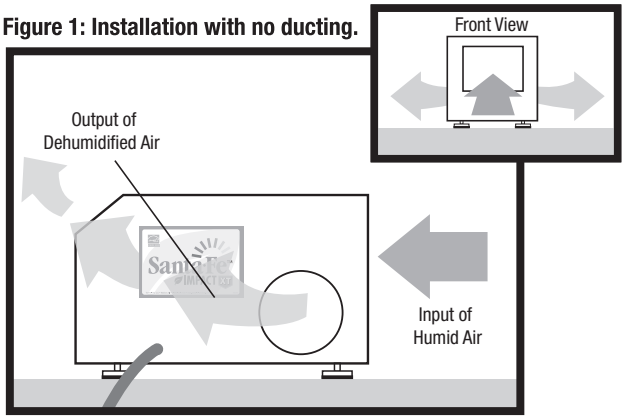
The Santa Fe Impact can be installed in a variety of locations to meet the owner's needs; other considerations include:

1. Providing access to a 115 VAC power outlet (10' power cord is provided).
2. Locating near a floor or other suitable drain (8' drain hose included).
3. Mount 4" above drain.
4. Do not install the Santa Fe Impact with the exhaust of the unit within 1' of a wall or obstruction. Do not place the unit near open water.

4.2A No Ducting (Figure 1)

The simplest installation is to place the Santa Fe Impact with no ducting. To ensure optimal performance, the air inlet and the outlet of the unit must be at least 2' from walls and other obstructions to air flow. Recirculation of outlet air into inlet should be avoided as much as possible.

Figure 1: Installation with no ducting.

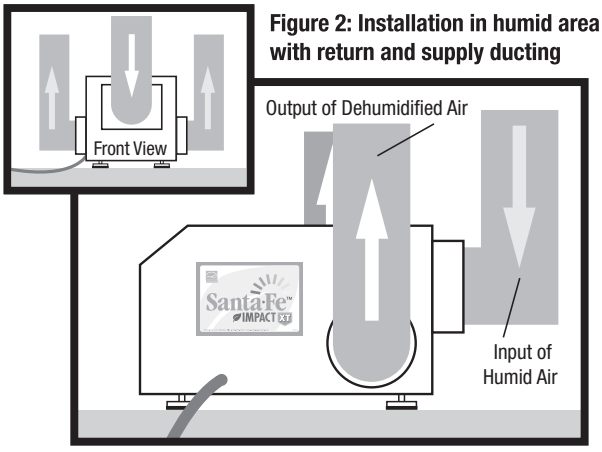


4.2B Ducted Return and Supply (Figure 2)

Dehumidification performance can be modified by adding an return and/or supply duct to circulate air.

For optimal drying, use return duct to draw warm, moist air from near the ceiling.

Figure 2: Installation in humid area with return and supply ducting



4.2C Remote Area With Ducted Supply (Figure 3)
A simplified remote installation method than above uses ducting between the Santa Fe Impact discharge and the humid room; the Santa Fe Impact inlet draws air from the room in which it's located. This works well if there is an adequate air flow path between the two rooms; i.e. high door undercut, louvered door or wall grill. This eliminates the need to remote mount the humidity control.

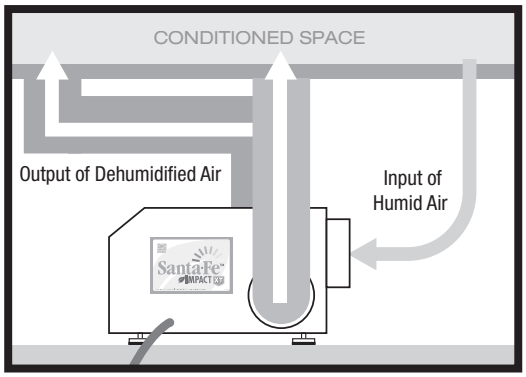
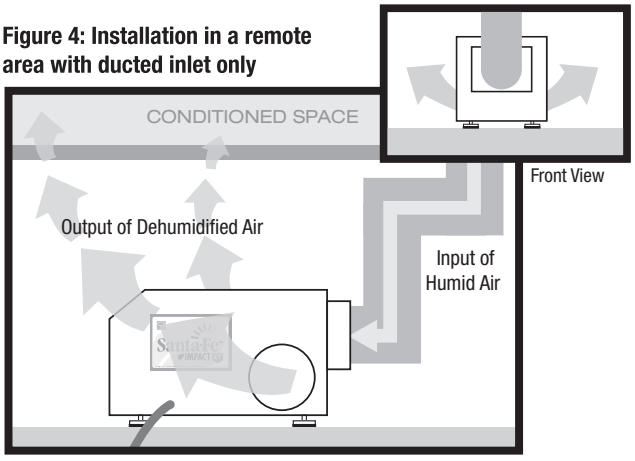


Figure 3: Installation in a remote area with ducted supply only

⚠ WARNING! Before installing the dehumidifier in the manner described in section 4.2D (Fig. 4), call the factory for specific instructions if backdraft devices (i.e. hot water heaters) are present in the space to be dehumidified.

4.2D Remote Area With Ducted Return (Figure 4)
When the Santa Fe Impact is located in a room separate from the main area to be dehumidified, it may be desirable to dehumidify and/or slightly pressurize that room. Pressurization assures that open combustion devices do not backdraft. This can be prevented by installing a duct from the humid room to the Santa Fe Impact inlet and by allowing the Santa Fe Impact to discharge dehumidified air into the room in which it's located. An adequate air flow path must exist between the two rooms for this method to work properly.

Figure 4: Installation in a remote area with ducted inlet only



⚠ WARNING!

4.3 Electrical Requirements
The Santa Fe Impact plugs into a common grounded outlet on a 110-120 VAC 15-Amp circuit. Use of a ground fault circuit interrupter (GFCI) protected circuit is recommended. The unit should not be used in areas prone to flooding.

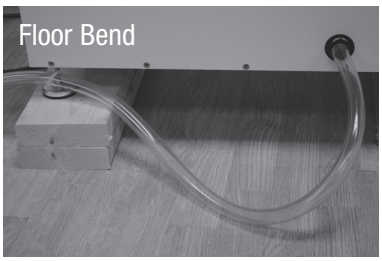
⚠ CAUTION! For proper drainage, the unit must be mounted so the drain outlet is at least 4" above the floor drain, and must be fully supported under the base.

4.4 Condensate (Water) Removal
The Santa Fe Impact drains via gravity, therefore, it does not have the ability to push condensate (water) upwards. The drain hose must run down towards the drain location. Condensate can be drained by using the 5/8" clear vinyl hose and the 3/4" threaded adapter provided. Ensure the threaded adapter is threaded in tightly.

⚠ CAUTION!

The Santa Fe Impact requires a drain trap. Creating a drain trap allows a small amount of water to build up in the trap area of the clear hose. This prevents air from back flowing through the hose and into the dehumidifier; essentially causing the unit to backflow water out of the corners of the machine. Position the trap in the hose approximately 8"-10" from the dehumidifier and make sure the highest point of the trap is still at least 2"below the black drain port adapter on the dehumidifier. If the highest point of the trap is above the drain port, water will back flow into the dehumidifier. Check the hose regularly to ensure water is draining properly.

Several trap options include:



PVC materials available from your local hardware store.

For additional information on how to create a proper trap, see our instructional video at:
www.Santa-Fe-Products.com/draintrap

Use care to keep the hose as flat to the floor as possible after your trap is in place. Be sure the hose is not kinked or otherwise restricted so water can pass through the hose freely. Improper installation of the drain hose may result in water leakage.

If the Santa Fe Impact is located too far from the floor drain and the provided hose does not reach, you may use a 1/2" PVC rigid pipe to extend the drain. Rigid PVC tubing is readily available from your local hardware store. Be sure the extension is at a down-word slope to the drain.

An optional condensate pump kit may be installed if lift is required to remove condensate. To order, contact your local dealer or visit our website at www.santa-fe-products.com. You may also reach us by phone at (800) 533-7533.

5. Ducting

5.1 Supply Duct Kit (P/N 4028607)

A factory designed supply duct kit can be purchased to accept 10" ducting to both outlets of the Santa Fe Impact. Contact your dealer or order online.

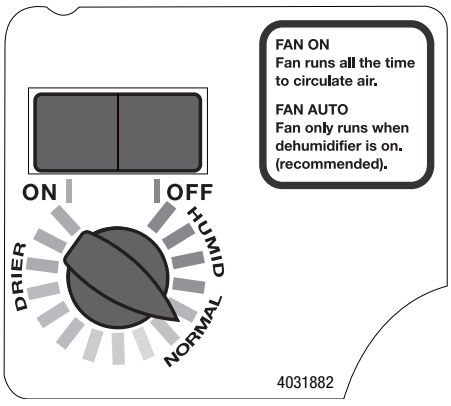
5.2 Return Duct Kit (P/N 4032229)

A factory designed return duct kit can be purchased to accept 12" ducting. Contact your dealer or order online.

6. Operation

6.1 Humidity Control Adjustment

The humidity control is an adjustable switch that closes when the relative humidity of the air in which it is located rises to the dial set point. It opens when the RH drops 4 to 6% below the set point.



Approximate Humidity Levels Per Setting

"Drier"	20% to 30% Relative Humidity
"Normal"	45% to 55% Relative Humidity (Recommended)
"Humid"	80% to 90% Relative Humidity

The dehumidifier will run until the relative humidity (RH) is reduced to the humidity control dial setting.

Quality humidity meters are available from the factory and are recommended to accurately monitor humidity levels. Contact your dealer or call 1-800-533-7533 to order.

6.2 Fan Switch

Turning the fan switch to **"FAN ON"** will cause the unit's internal fan to run continuously, whether the unit is dehumidifying or not. This function is desirable if the unit is used for air circulation.

Turning the fan switch to **"FAN AUTO"** will cause the unit's internal fan to run only while the unit is dehumidifying.

7. Maintenance

⚠ WARNING! NOTE: Do not operate the unit without the filter or with a less effective filter. The heat exchange coils inside the unit could become clogged and require disassembly to clean.

7.1 Air Filter

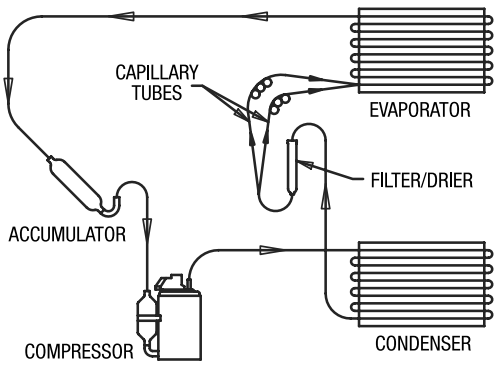
The Santa Fe Impact ships with a standard MERV 11 efficient pleated fabric filter. This should be checked every three to six months. The pleated fabric filter can generally be vacuumed clean several times before needing replacement. Operating the unit with a dirty filter will reduce dehumidifier capacity and efficiency and may cause the compressor to cycle on and off unnecessarily. Replacement filters can be ordered from your dealer or online at www. Santa-Fe-Filters.com.

8. Service

⚠ WARNING! Servicing the Santa Fe Impact with its high pressure refrigerant system and high voltage circuitry presents a health hazard which could result in death, serious bodily injury, and/or property damage. Only qualified service people should service this unit.

8.1 Technical Description

The Santa Fe Impact uses a refrigeration system similar to an air conditioner's to remove heat and moisture from incoming air, and add heat to the air that is discharged. Hot, high pressure refrigerant gas is routed from the compressor to the condenser coil. The refrigerant is cooled and condensed by giving up its heat to the air that is about to be discharged from the unit. The refrigerant liquid then passes through a filter/drier and capillary tubing which cause the refrigerant pressure and temperature to drop. It next enters the evaporator coil where it absorbs heat from the incoming air and evaporates.



Santa Fe Impact refrigeration system

The evaporator operates in a flooded condition, which means that all the evaporator tubes contain liquid refrigerant during normal operation. A flooded evaporator should maintain constant pressure and temperature across the entire coil, from inlet to outlet. The mixture of gas and liquid refrigerant enter the accumulator after leaving the evaporator coil. The accumulator prevents any liquid refrigerant from reaching the compressor. The compressor evacuates the cool refrigerant gas from the accumulator and compresses it to a high pressure and temperature gas to repeat the process.

8.2 Troubleshooting

FOR THE HOMEOWNER:

■ If the unit does not work properly, please check the following:

— Is the unit unplugged?

— Is power to outlet on? (check switch, if applicable)

— Is circuit breaker tripped?

— Is humidity control set? (turn to "ON")

— Is air flow restricted? (check air filter and grill)

If none of the above, call dealer or 1-800-533-7533.

FOR THE HVAC PROFESSIONAL:

■ No dehumidification. Neither blower, nor compressor run with fan switch AUTO.

1. Unit unplugged or no power to outlet, circuit breaker tripped.
2. Humidity control set to "Humid" setting.
3. Loose connection in internal wiring.
4. Humidity control is defective.

■ No dehumidification. Compressor does not run but blower runs with fan switch AUTO and humidity control turned to ON.

1. Defrost thermostat open, ambient temperature too low.
2. Loose connection in compressor circuit.
3. Defective compressor overload.
4. Defective compressor or compressor run capacitor.

■ Blower runs with fan switch AUTO but compressor cycles on & off.

1. Low ambient temperature and/or humidity causing unit to cycle through defrost mode.
2. Defrost thermostat defective.
3. Defective compressor overload.
4. Defective compressor.

■ Blower does not run with fan switch in either position. Compressor runs briefly but cycles on and off.

1. Loose connection in blower circuit.
2. Obstruction prevents impeller rotation.
3. Defective blower.
4. Defective blower switch.

■ Evaporator coil frosted continuously, low dehumidifying capacity.

1. Dirty air filter or air flow restricted.
2. Defrost thermostat loose or defective.
3. Low refrigerant charge.

If none of the above has fixed the issue, call technical support at 1-800-533-7533.

9. Service Parts List

Part No	Description
4026221	Leveling Foot
4031085	Condensor Coil
4031086-02	Evaporator Coil
4025741	Thermostat, Defrost Control
4029510	Filter/Drier
4032225	Compressor Replacement Kit
4029568	Compressor Overload
4032196	Impeller
4025560	Fan Switch
4021469	Humidistat
4033031-02	Blower Capacitor, Run, 5MFD, 370V
4033032-03	Compressor Capacitor, Run, 35MFD, 370V

10. Accessory/Replacement Parts List

4021475	MERV 11 Filter (16"x20"x2")
4027420	MERV 11 Filters 4-Pack
4027424	MERV 11 Filters 12-Pack
4028614	Pump Kit
4028616	Caster Kit
4028607	Duct Kit, Supply Only
4028610	Duct Kit, Return Only
4026969	10" Flex Duct 25'
4022126	10" Flex Insulated Duct 25'
4024750	12" Flex Duct 25'
4028366	12" Flex Insulated Duct 25'
4020175	Remote Dehumidistat

11. Santa Fe Impact Optional Remote Humidity Control

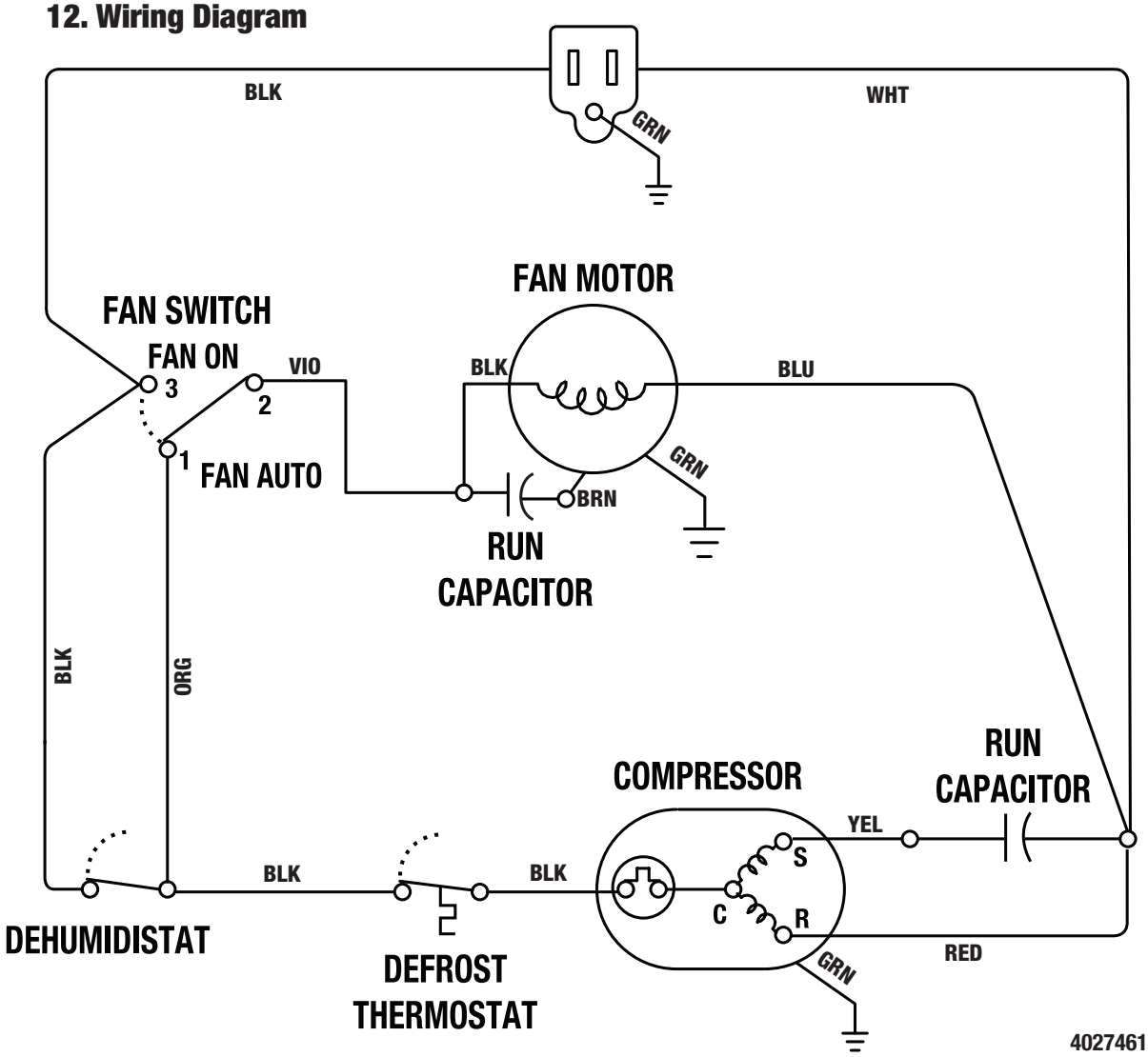
4020175

⚠ CAUTION! This should only be performed by a qualified electrician.

A 120 VAC remote humidity control is available from the factory. This replaces the factory mounted humidity control on the cabinet of the dehumidifier, and allows you to accurately sense the humidity in an area other than the one where the dehumidifier is located. Contact a certified electrician to install this control to your dehumidifier.

To order, contact your dealer or call 1-800-533-7533.

12. Wiring Diagram



4027461C

Limited Warranty

Limited Warranty. Therma-Stor, LLC ("Therma-Stor") warrants as follows: (i) the Santa Fe Impact dehumidifier ("Product") will be free of material defects in workmanship or materials for a period of one (2) year ("Two-Year Warranty") following the date of initial purchase of such Product by an original customer purchasing from Therma-Stor or an authorized reseller ("Customer"); and (ii) the Product's condenser, evaporator, and compressor will be free of material defects in workmanship or materials for a period of five (5) years following the date of initial purchase of such Product by a Customer.

Limitation of Remedies. CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THE ABOVE LIMITED WARRANTY AND THERMA-STOR'S ENTIRE LIABILITY THEREUNDER, SHALL BE, AT THE SOLE OPTION OF THERMA-STOR, REPLACEMENT OR REPAIR OF SUCH PRODUCT OR ITS COMPONENTS ("COMPONENTS") BY THERMA-STOR OR THERMA-STOR'S AGENTS ONLY. REFRIGERANT, PIPING, SUPPLIES, TRANSPORTATION COSTS, LABOR COSTS INCURRED IN REPAIR OR REPLACEMENT OF SUCH COMPONENTS ARE NOT INCLUDED. THIS DISCLAIMER AND EXCLUSION SHALL APPLY EVEN IF THE EXPRESS WARRANTY AND LIMITED REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE. CUSTOMER ACKNOWLEDGES THAT NO REPRESENTATIVE OF THERMA-STOR OR OF ITS AFFILIATES OR RESELLERS IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY ON BEHALF OF THERMA-STOR OR ANY OF ITS AFFILIATES OR RESELLERS THAT IS NOT IN THIS AGREEMENT. Notwithstanding the above, during the term of the Two-Year Warranty only, Therma-Stor will provide, free of charge to Customer, all Components and labor (except costs related to removal and installation of Product) required to fulfill its obligations under such Two-Year Warranty.

Disclaimer of Warranties. EXCEPT FOR ABOVE LIMITED WARRANTY, WHICH IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED WITH RESPECT TO THE PRODUCT AND ITS COMPONENTS, THERMA-STOR HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Warranty Limitations. The foregoing limited warranty extends only to a Customer and shall be null and void upon attempted assignment or transfer. A "defect" under the terms of the limited warranty shall not include problems resulting from Customer's or Customer's employees', agents', invitees' or a third party's misuse, improper installation, improper design of any system in which the Product is included, abuse, lack of normal care, failure to follow written instructions, tampering, improper repair, or freezing, corrosion, acts of nature or other causes not arising out of defects in Therma-Stor's workmanship or material. If a Product or Component is replaced while under warranty, the applicable limited warranty period shall not be extended beyond the original warranty time period. The limited warranty does not cover any costs related to changes to a Product or Component that may be required by any codes, laws, or regulations that may become effective after initial purchase of the Product by Customer.

Customer Responsibilities. As a further condition to obtaining warranty coverage hereunder, the Customer must send a valid warranty claim to Therma-Stor such that Therma-Stor receives such claim prior to the end of the applicable warranty period. Therma-Stor shall have no obligation hereunder with respect to any claim received by Therma-Stor after the expiration of the applicable warranty period. As a further condition to obtaining warranty coverage hereunder, the Customer must present forms of invoices evidencing proof of purchase of a Product. If such invoices do not clearly indicate the date of initial purchase by a Customer, the applicable Product's date of manufacture will be used instead of the date of initial purchase for the purpose of calculating the commencement of the applicable warranty period. Warranty service must be performed by Therma-Stor or a servicer authorized by Therma-Stor. In order to obtain warranty service, the Customer should call Therma-Stor at 1-800-533-7533 and ask for the Therma-Stor Products Service Department, which will then arrange for applicable warranty service. Warranty service will be performed during customary, daytime working hours. If the Product must be shipped for service, Customer shall be solely responsible for properly packaging the Product, for all freight charges, and for all risk of loss associated with shipment.

Limitation of Liability. IN NO EVENT SHALL THERMA-STOR, IN CONNECTION WITH THE DESIGN, SALE, INSTALLATION, USE, REPAIR, REPLACEMENT OR PERFORMANCE OF ANY PRODUCT, COMPONENT, PART THEREOF OR WRITTEN MATERIAL PROVIDED THEREWITH, BE LIABLE, TO THE EXTENT ALLOWED UNDER APPLICABLE LAW, UNDER ANY LEGAL THEORY FOR ANY SPECIAL, DIRECT, INDIRECT, COLLATERAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, THE SOLE AND EXCLUSIVE LIABILITY OF THERMA-STOR, REGARDLESS OF THE NATURE OR THEORY OF THE CLAIM, SHALL UNDER NO CIRCUMSTANCES EXCEED THE PURCHASE PRICE OF THE PRODUCT, COMPONENT OR PART UPON WHICH THE CLAIM IS PREMISED.

Applicable Law and Venue. ANY ARBITRATION, ENFORCEMENT OF AN ARBITRATION OR LITIGATION RELATED TO THE PRODUCT WILL BE BROUGHT EXCLUSIVELY IN DANE COUNTY, WISCONSIN, AND CUSTOMER CONSENTS TO THE JURISDICTION OF THE FEDERAL AND STATE COURTS LOCATED THEREIN, SUBMITS TO THE JURISDICTION THEREOF AND WAIVES THE RIGHT TO CHANGE VENUE. CUSTOMER FURTHER CONSENTS TO THE EXERCISE OF PERSONAL JURISDICTION BY ANY SUCH COURT WITH RESPECT TO ANY SUCH PROCEEDING.

Miscellaneous. If any term or condition of this Limited Warranty is found by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, the same shall not affect the other terms or conditions hereof or thereof or the whole of this Limited Warranty. Any delay or failure by Therma-Stor to exercise any right or remedy will not constitute a waiver of Therma-Stor to thereafter enforce such rights.

Santa·Fe™

FREE-STANDING DEHUMIDIFIERS

1-800-533-7533

www.Santa-Fe-Products.com